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(54) CARBON OXIDE CAPTU	(54)	CARBON	OXIDE	CAPTU	JRE
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Field of Classification Search

CPC combination set(s) only.

See application file for complete search history.

(56)**References Cited**

U.S. PATENT DOCUMENTS

2,649,166 A *	8/1953	Eck B01D 95/166
4.54.050 + +	404005	D53/62
4,561,869 A *	12/1985	Gazzi B01D 53/1456
4,979,966 A	12/1990	02/000

FOREIGN PATENT DOCUMENTS

EP0362023 A1 * 4/1990 B01D 53/1456

OTHER PUBLICATIONS

International Search Report received in PCT/FR2011/052424, mailed Feb. 14, 2012.

* cited by examiner

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(57)ABSTRACT

The present invention relates to the use of (poly)-oxymethylene dialkyl ethers as agents for capturing carbon oxides, CO

The invention also relates to the process for capturing carbon oxides using at least one absorption agent chosen from said (poly)oxymethylene dialkyl ethers.

16 Claims, No Drawings